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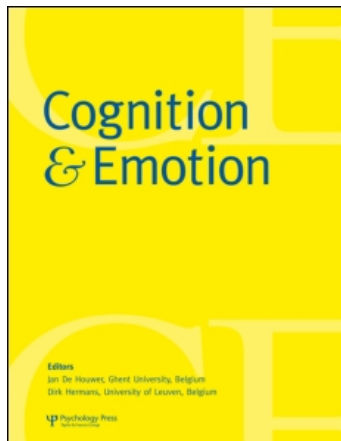
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BRIEF REPORT

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BRIEF REPORT

Deservingness and *Schadenfreude*

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The present study tested the hypothesis that *Schadenfreude*, pleasure at another's misfortune, results when a misfortune is perceived as deserved. Participants responded to interviews in which information was provided about a student who suffered a misfortune. The male or female student had either high or average achievements and was either responsible or not responsible for the misfortune. Results showed that responsibility for the misfortune increased *Schadenfreude* and this effect was mediated by the perceived deservingness of the misfortune.

When bad things happen to other people one's reaction is often one of sympathy. However, sometimes these occasions give rise to *Schadenfreude*, pleasure at another's misfortune. It has been empirically shown that this latter feeling can be evoked by misfortunes happening to people who are envied (Smith et al., 1996), resented (Feather & Sherman, 2002), or disliked (Hareli & Weiner, 2002). Another determinant of *Schadenfreude* which has been proposed by several scholars is the perceived deservingness of a misfortune. Presumably, the more a misfortune is seen as deserved, the more *Schadenfreude* will be evoked (Ben-Ze'ev, 2000; Feather, 1994, 1999; Heider, 1958; Ortony, Clore, & Collins, 1988; Portmann, 1999). Although correlational data support this argument (Feather, 1989; Feather & Sherman, 2002; Hareli & Weiner, 2002), experimental research has not shown a causal link between deservingness and *Schadenfreude*. In the present research we will investigate this link experimentally by manipulating the deservingness of a misfortune. We attempt to do this by varying the responsibility for a misfortune.

Earlier research has indicated that responsibility for an outcome is an important variable determining the deservingness of this outcome (see Feather, 1994, 1999 for an overview). A person who is responsible for his/her own good fortune is seen as deserving

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this positive outcome. Likewise, a person who is responsible for his/her own bad fortune is seen as deserving this misfortune. According to this line of reasoning and in conjunction with the assumed link between deservingness and *Schadenfreude*, it can be expected that a person who is responsible for his/her own misfortune will be seen as deserving this misfortune and will therefore evoke *Schadenfreude*.

Earlier studies on *Schadenfreude* in which deservingness was manipulated by means of different degrees of responsibility, failed to yield any significant effects of this manipulation on *Schadenfreude*. Although Brigham, Kelso, Jackson, and Smith (1997) found that a setback of a superior student evoked more *Schadenfreude* than a setback of an average student, and that a student who was not responsible for the setback elicited more sympathy than a student who was responsible, they did not find the expected effect of responsibility on *Schadenfreude*. However, it should be noted that in this study both target persons and participants were male, which might have limited generalisation of these findings. Results of Feather and Sherman's (2002) study also yielded an effect of responsibility on sympathy (i.e., a student's failure due to a very difficult exam elicited more sympathy than a failure due to a student's own actions), but again did not yield an effect of responsibility on *Schadenfreude*. However, close inspection of the data reveals that in both high and low responsibility conditions mean ratings of perceived responsibility were above the midpoint of the scale, indicating that in both conditions targets were more seen as responsible than as not responsible for their own misfortune. This lack of clear not responsible targets might have prevented finding a significant relationship between responsibility and *Schadenfreude*. Thus, in our view, the failure to find empirical support for the supposed link between responsibility on *Schadenfreude* might be attributed to the above mentioned issues. Moreover, we argue that when one takes into account these possible limitations, as we did in the present research, the theoretically posited relationship between responsibility and *Schadenfreude* might be obtained empirically.

In the present research we use a procedure, which is comparable to those used in earlier research on *Schadenfreude* (Brigham et al., 1997; Smith et al., 1996). First, a target is introduced (either a superior or average student) and reactions towards this target are assessed. Second, participants are informed that the target suffered a recent misfortune (for which the student is either responsible or not) and reactions towards this misfortune are assessed. In line with earlier research we expect that superior targets evoke both more envy and more *Schadenfreude* than average targets and that a misfortune for which a target is not responsible evokes more sympathy than a misfortune for which a target is responsible (cf. Brigham et al., 1997; Feather & Sherman, 2002; Smith et al., 1996). More importantly, we expect that a misfortune for which a target is responsible evokes more *Schadenfreude* than a misfortune for which a target is not responsible, and that this effect is mediated by the perceived deservingness of the misfortune. If so, this provides the first experimental evidence for the often assumed link between deservingness and *Schadenfreude*.

METHOD

Participants and design

A total of 196 students (100 women, 96 men) at the Vrije Universiteit Amsterdam participated in the experiment and were paid for their participation. Participants were randomly assigned to one of the conditions of the 2 (Achievements Target: high vs. average) \times 2 (Gender Target: male vs. female) \times 2 (Responsibility Target: responsible vs. not responsible) factorial design, 22–27 participants took part in each of the eight conditions.

Experimental procedure

Participants were invited to the laboratory to participate in a study on the impact of different media on impression formation. On arrival at the laboratory, they were led to separate cubicles, which each contained a computer that was used to present stimulus information and to collect data on the dependent variables. Participants were told that some of them would read two written interviews, while others would listen to an audiotape or watch a videotape of the interviews. Importantly, details of both procedure and interviews were designed to let participants believe that the interviews concerned real interviews. For example, participants were told that these interviews were part of a series of interviews called "Studying in the 21st century" that were collected in cooperation with the university. All participants were then told that they were randomly selected to read two written interviews on the computer: one with a student at the university and one with the student's tutor.

In the first interview a student gave information about how he/she was progressing at the university. In this interview both student's achievements and gender were manipulated. In the high achievements condition details were manipulated to make the student appear outstanding in terms of academic achievements, research, and likelihood of getting a good job. In the average achievements condition, details were adjusted to make the student appear average in these terms. Gender of the student was manipulated by using a male student named Erik in half of the conditions and in the other half of the conditions a female student named Esther.

After reading the first interview, participants' reactions towards the student were assessed. Participants were asked to what extent they agreed with seven statements¹ (1 = *strongly disagree*, 7 = *strongly agree*). Four statements assessed *envy* (e.g., I would like to be in the position of [Esther/Erik];² I feel less good when I compare my own results to those of [. . .]). Three statements assessed *dislike* (e.g., I dislike [. . .]; I have a feeling of contempt towards [. . .]).

Next, participants read an interview with the student's tutor, supposedly held three months after the interview with the student. This interview informed participants about a setback recently suffered by the student. The tutor told them that either the student was caught stealing a laptop from the university and was subject to a criminal investigation or that the student was wrongly accused of stealing a laptop.

After reading this second interview, participants' reactions towards the misfortune were assessed. Participants were asked to what extent they agreed with 15 statements (1 = *strongly disagree*, 7 = *strongly agree*). Five statements assessed *Schadenfreude* (e.g., I enjoy what happened to [. . .]; I couldn't resist a little smile; I feel *Schadenfreude*³). Three statements assessed *sympathy* (e.g., I commiserate with [. . .] about what happened; and I sympathize with [. . .]). Three statements assessed *responsibility for the misfortune* (e.g., I find that [. . .] is responsible for what has happened; [. . .] has caused the situation. Four

¹ These statements were enclosed within several filler items. Among these filler items were several questions especially designed to reinforce the claim made in the instructions that the study was concerned with impression formation and the use of different media. These questions asked, for example, to what extent they used different media (i.e., TV, radio, newspapers), and whether they were connected to the internet.

² Depending upon conditions, the name Esther or Erik was used in the statements.

³ We used the term "leedvermaak", which is the Dutch word for *Schadenfreude*. The first use of this word in Dutch language has been dated at the year 1811.

statements assessed *deservingness of the misfortune* (e.g., I find it just what happened; I find what happened to [...] is deserved). After participants had finished they were debriefed and paid.

RESULTS

Reliability assessments

Cronbach alphas for the four envy items, three dislike items, five *Schadenfreude* items, three sympathy items, three responsibility items, and four deservingness items were .77, .85, .87, .85, .97, and .94, respectively, indicating high internal consistency for each scale.

Analyses of variances

All reported analyses of variances (ANOVAs) were performed with Responsibility Target (responsible vs. not responsible), Achievements Target (average vs. high), Gender Target (male vs. female), and Gender Participant (male vs. female) as independent variables.

Manipulation checks. An ANOVA performed on the three-item measure of responsibility yielded a significant main effect of responsibility, $F(1, 180) = 376.96$, $p < .001$, $\eta^2 = .68$. Participants in the responsible condition perceived the target as more responsible for his/her own misfortune ($M = 5.89$, $SD = 0.96$) than participants in the not responsible condition ($M = 2.46$, $SD = 1.45$). An ANOVA performed on the four-item measure of envy (as an indirect measure of achievements of the target) yielded a significant main effect of achievements, $F(1, 181) = 54.01$, $p < .001$, $\eta^2 = .23$. Participants in the high achievements condition reported greater envy ($M = 3.32$, $SD = 1.13$) than participants in the average achievements condition ($M = 2.25$, $SD = 0.86$). In both ANOVAs, none of the other main or interaction effects was significant. This suggests that both the manipulations of responsibility and achievements were successful.⁴ Finally, an ANOVA performed on the four-item measure of deservingness yielded a significant main effect of responsibility, $F(1, 181) = 167.02$, $p < .001$, $\eta^2 = .48$. Participants in the responsible condition perceived the misfortune as more deserved ($M = 4.41$, $SD = 1.39$) than participants in the not responsible condition ($M = 2.07$, $SD = 1.17$).⁵ This suggests that the manipulation of responsibility had the predicted effect on the perceived deservingness of the misfortune.

Schadenfreude. An ANOVA performed on the five-item measure of *Schadenfreude* yielded significant main effects of responsibility, $F(1, 180) = 13.11$, $p < .001$, $\eta^2 = .07$;

⁴ Moreover, an ANOVA performed on the three-item measure of dislike revealed no significant differences among conditions in how much participants disliked the target, indicating that the manipulation of achievements had created no differences in how much the participants disliked the target. Means for dislike in the eight conditions varied between 2.06 and 2.78.

⁵ Unexpectedly, results also revealed a significant three-way interaction between responsibility, gender of the target, and gender of the participant, $F(1, 180) = 4.42$, $p < .05$, $\eta^2 = .02$. Means for deservingness did not differ in the not responsible condition (means varied between 1.96 and 2.24). In the responsible condition female participants perceived a misfortune for a female target as more deserved than male participants did (4.99 vs. 3.80). No difference in deservingness between female and male participants was found for male targets (4.32 vs. 4.50).

achievements, $F(1, 180) = 4.86, p < .05, \eta^2 = .03$; and gender of the participant, $F(1, 180) = 7.34, p < .01, \eta^2 = .04$. As predicted by our main hypothesis, participants in the responsible condition experienced more *Schadenfreude* ($M = 2.78, SD = 1.23$) than participants in the not responsible condition ($M = 2.14, SD = 1.19$). Furthermore, participants in the high achievements condition experienced more *Schadenfreude* ($M = 2.65, SD = 1.35$) than participants in the average achievements condition ($M = 2.28, SD = 1.12$). Finally, male participants experienced more *Schadenfreude* ($M = 2.70, SD = 1.34$) than female participants ($M = 2.23, SD = 1.12$). None of the other main or interaction effects was significant.

Sympathy. An ANOVA performed on the three-item measure of sympathy yielded significant main effects of responsibility, $F(1, 180) = 120.43, p < .001, \eta^2 = .40$; and achievements, $F(1, 180) = 5.02, p < .05, \eta^2 = .03$. Participants in the responsible condition experienced less sympathy ($M = 3.31, SD = 1.81$) than participants in the not responsible condition ($M = 5.71, SD = 1.21$). Furthermore, participants in the high achievements condition experienced more sympathy ($M = 4.41, SD = 1.29$) than participants in the average achievements condition ($M = 4.08, SD = 1.70$). Next to these main effects, also a significant interaction effect between achievements and responsibility was found, $F(1, 180) = 4.17, p < .05, \eta^2 = .02$. Inspection of the means indicated that participants experienced more sympathy for a responsible target with high achievements ($M = 3.68, SD = 0.99$) than for a responsible target with average achievements ($M = 2.92, SD = 1.25$). No difference in sympathy was found for not responsible targets with either high ($M = 5.18, SD = 1.11$) or average achievements ($M = 5.16, SD = 1.31$). None of the other main or interaction effects was significant.

Mediation analysis

To test whether deservingness would mediate the impact of responsibility on *Schadenfreude* we conducted a series of regression analyses. We first regressed *Schadenfreude* on responsibility and obtained a significant effect ($\beta = .28, p < .001$). Next, we regressed the mediator, deservingness, on responsibility and obtained a significant effect ($\beta = .74, p < .001$). Third, we regressed *Schadenfreude* on responsibility and deservingness. Deservingness had a significant effect on *Schadenfreude* ($\beta = .31, p < .001$). The effect of responsibility on *Schadenfreude*, after controlling for deservingness, was not significant ($\beta = .10, n.s.$). The test of the mediated pathway (Sobel test) was significant ($Z = 4.38, p < .001$). These results suggest that the effect of responsibility on *Schadenfreude* is mediated by deservingness.⁶

⁶ A second series of regression analyses suggested that deservingness partially mediated the effect of responsibility on sympathy. Regressing sympathy on responsibility yielded a significant effect ($\beta = -.70, p < .001$). Regressing the mediator, deservingness, on responsibility also yielded a significant effect ($\beta = .74, p < .001$). Regressing sympathy on responsibility and deservingness yielded a significant effect of deservingness ($\beta = -.21, p < .01$). Although, the effect of responsibility, after controlling for deservingness, was still significant ($\beta = -.55, p < .001$), the test of the mediated pathway was significant ($Z = 2.77, p < .01$).

DISCUSSION

The results of the present study yielded the first experimental evidence for the often assumed link between deservingness and *Schadenfreude*. Results showed that the more a target is responsible for his/her own misfortune, the more this misfortune is seen as deserved, which in turn elicits more *Schadenfreude*. Furthermore, the results of the present study replicates prior results concerning *Schadenfreude* and sympathy. It was shown that superior targets evoke both more envy and *Schadenfreude*, whereas not responsible targets evoke more sympathy than responsible targets (cf. Brigham et al., 1997; Feather & Sherman, 2002; Smith et al., 1996).

One might argue what it is about our study that verifies the theoretically posited link between deservingness and *Schadenfreude* that previous studies failed to document. Did we stumble on a particular set of circumstances in which the predicted relationship holds? We do not think so, in our view the linkage between deservingness and *Schadenfreude* is as general as the theoretical accounts of *Schadenfreude* suggest. Some of our own recent studies give support for this. In one study, using a similar paradigm as the present study but with a different manipulation of deservingness, we also found a significant relationship between deservingness and *Schadenfreude* (van Dijk, Ouwerkerk, Goslinga, & Nieweg, 2004a). An even stronger argument for the generalisability of our present results is the fact that we recently also replicated our present results using a clearly different paradigm. In this study we used a social exclusion paradigm and found that social exclusion of a group member elicits more *Schadenfreude* in fellow group members when the exclusion was perceived as deserved than when it was perceived as undeserved (van Dijk, Ouwerkerk, & Nieweg, 2004b).

In the present study we used a manipulation of responsibility to create differences in perceived deservingness of a misfortune. This does not mean that responsibility is the only variable that can influence deservingness of a misfortune. For example, earlier work on envy suggests that envy involves a sense that the envied person's advantage is undeserved (Heider, 1958; Parrott, 1991; Smith, 1991; Smith, Parrott, Ozer, & Moniz, 1994). A misfortune befalling an envied person, may then evoke a sense that a wrong has been righted and that the misfortune is perceived as deserved (cf. Smith et al., 1996). Furthermore, Feather and Sherman (2002) showed that a target with undeserved achievements evokes resentment and a wish that this target should be "cut down to size". A misfortune befalling this target could satisfy this wish and be perceived as deserved. A line of reasoning that is supported by the finding of Feather and Sherman that targets with undeserved achievements were seen as deserving their misfortune more than targets with deserved achievements. In short, we argue that *Schadenfreude* will be evoked by the deservingness of a misfortune. Perceiving a misfortune as deserved, however, can be evoked by different variables. The present study showed that the responsibility for a misfortune is an important determinant of deservingness and therefore also an important determinant of *Schadenfreude*.

In closing, we like to mention some methodological considerations for studying *Schadenfreude*. In our view, the most suitable methodology will be one in which actual (comparison) information is provided, key measures have been filtered among other items, and a cover story is included that masks the true purpose of the study. This will minimise both experimental demands and social desirability, an issue that is very relevant in the context of studying less social desirable emotions. In this study we used a

methodology, comparable to the one used by Brigham et al. (1997) and Smith et al. (1996), which combines these features. Next to these methodological considerations, we would be very much in favour of using both male and female targets. Earlier studies on *Schadenfreude* differed from each other in this respect. Whereas Feather and Sherman (2002) used gender-unspecific targets, both Brigham et al. and Smith et al. used only male targets. Moreover, Brigham et al. also only included male participants in their study. These differences may hinder both comparisons between studies and generalisation of obtained results.

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